

Low vision device coverage across Canada.

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Abstract

Purpose: Low vision devices can play a significant role in improving the quality of life of the visually impaired. Because each Canadian province and territory is responsible for how health care is delivered, government coverage for devices varies between jurisdictions. This article provides a concise summary of the different provincial and territorial low vision device subsidies available to visually impaired adults in Canada.

Methods: Information gathered for this article was obtained from organizations such as Vision Loss Rehabilitation Canada, health care professionals (including ophthalmologists and optometrists) across Canada and from government agencies providing low vision services. Details regarding government assistance for low vision devices include the program name, administering organization, eligibility, types of devices that are subsidized and how the assistance is administered in each province and territory. Links to government websites for device coverages are provided in the article where applicable.

Results: Within the 10 provinces and 3 territories of Canada, there is some form of financial assistance for low vision devices available to the adult population in 54% (7/13) of the jurisdictions. At present, subsidization is quite variable between jurisdictions, ranging from full coverage to no provincial/territorial coverage whatsoever. Furthermore, while there is some coverage in Manitoba and New Brunswick, it is limited to post-secondary education and work-related needs.

Conclusion: Adults with low vision in Canada cannot always rely on public support to obtain low vision devices. Further legislation and development of coverages is needed to provide more unified and equitable access to devices for all Canadians.

Keywords: Low vision, Vision rehabilitation, Low vision device.

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Background

Low Vision (LV) devices are tools designed to improve the visual performance of individuals with low vision. LV devices include optical, non-optical and other assistive devices like Closed Circuit Television (CCTV), head mounted eyewear displays and screen readers. LV devices, especially those that improve reading, have a huge impact on improving a patient's overall perception of their vision-related quality of life (vrQOL) [1]. Similarly, incorporating extended teaching on LV device use as part of low vision rehabilitation (LVR) has also been shown to have a significantly positive impact on perceived vrQOL [2]. Unfortunately, while LV devices can improve vrQOL and LVR outcomes, cost can be prohibitive for many living in areas with partial or no government coverage. For example, a Canadian National Institute for the Blind (CNIB) study reported that over 50% of seniors with LV they surveyed indicated that high price was the reason for not having a desired LV device [3].

Another CNIB study reported that 48% of Canadians surveyed with LV have an annual income less than \$20,000 per year [4]. It is estimated that by 2032, 1 in 4 Canadians will be aged 65 years or older, Canadians with vision loss will double, and

financial expenditures associated with vision loss in Canada will reach \$30.3 billion dollars per year [5].

Under the Canada Health Act, each province and territory is responsible for how health care is delivered within its jurisdiction [6]. It behooves policy makers to find a balance between eliminating barriers to accessing LV devices while providing adequate care to the rising number of those suffering from vision loss.

Since 1918, a charitable organization called the Canadian National Institute for the Blind (CNIB) has been assisting Canadians with LV and blindness through various programs, advocacy, education and LV services. To facilitate access to provincial funding sources and to increase availability of VLR within Canada, Vision Loss Rehabilitation Canada (VLRC) emerged from the CNIB in 2017. Other than Quebec, all provinces and territories with funding for LV devices do so through the VLRC, which performs assessments and training, and the CNIB, which dispenses the devices. While these organizations exist in Quebec, the majority of Quebec's LVR services occur through government-sponsored rehabilitation centres spread throughout the province.

The goal of this article to provide a brief overview of the current provincial and territorial coverage for LV devices for the adult population across Canada. It is hoped that providing a concise comparison of coverages will stimulate discussion resulting in more unified and equitable access to LV devices, not only in Canada, but in other areas of the world as well. In the interest of keeping the article concise, it is not the intension to provide complete program details for each province and territory.

Literature Review

Government device coverage by province and territory across Canada

Alberta: Provincial coverage in Alberta for LV devices can be obtained through the CNIB Specialized Technical Equipment Program (STEP). STEP received \$650,000.00 CAD in funding through a grant from the Ministry of Health's Alberta Aids to Daily Living Program (AADL) from April 1st 2019 to March 31st 2020. During this same period 772 clients received aid and a total of 1235 products were dispensed to patients. STEP is a cost-sharing program that covers 75% of the eligible equipment cost and patient pays the remaining 25%. Those with low or subsidized incomes may qualify for a cost-share exemption, in which case they would have 100% device coverage. To be eligible for STEP requires registration with the CNIB foundation (issues the devices) and Vision Loss Rehabilitation Alberta (VLRA-performs the assessments) as they are the only organizations allowed to access STEP funding in Alberta.

Eligibility for STEP also requires the individual be a permanent resident of Alberta with a valid Alberta Personal Health Number (PHN) and is unable to obtain device funding from another agency. Devices available through the program depend on the level of visual acuity and/or visual field restrictions. For example, those with a Best-Corrected Visual Acuity (BCVA) of 20/70 or worse in both eyes qualify for low-tech LV devices like magnifiers, while those with a BCVA of 20/200 or worse qualify for high-tech devices like CCTV.

VLRA also loans and recycles used equipment in order to increase availability for clients who do not qualify for a cost-share exemption and cannot otherwise afford a device. Loaned devices tend to be older models or used equipment and are based on availability. Furthermore, loaned equipment is typically limited to low tech or low vision aids and excludes the more expensive assistive technologies like CCTV. The maximum benefit for each client under STEP per benefit year (July 1-June 30) is \$8,000, except for individuals who are deaf blind where the maximum benefit is \$12,000. While STEP aids in acquiring equipment, it does not pay for repairs once dispensed. Further details regarding STEP can be found online [7]. Summary of Alberta's provincial coverage is shown in Table 1 and Figure 1.

Northwest territories: Currently, VLRA has a contract with the territorial government to provide LV device coverage in the

Northwest Territories. As this contract is relatively new, eligibility requirements and details regarding funding through the contract are still being developed. In the meantime, there is no requirement for age, income and visual acuity or field of vision. A team of VLRA specialists travels to communities in the territory such as Yellowknife, Inuvik, Hay River, Fort Providence, Behchoko and other towns up to every second month. All recommended LV devices by the team are fully covered by territorial funding. There is no website at present, for further details please contact VLRA. Summary of the Northwest Territory's coverage is shown in Table 1 and Figure 1.

Saskatchewan: In Saskatchewan, The Aids to Independent Living Program (SAIL) is comprised of 14 sub-programs that provide benefits to assist people with physical disabilities. The Aids to the Blind program is one of the 14 sub-programs with the specific aim of subsidizing the cost of select LV aids and assistive devices to individuals with VL. SAIL is funded by Saskatchewan's Ministry of Health. SAIL spent a total of \$220,373.00 CAD on equipment, helped 830 individuals and dispensed 1,065 aids or devices between April 1, 2019 to March 31, 2020. To be eligible for SAIL you must be a resident of Saskatchewan with a valid Saskatchewan Health Services Number, be referred by an authorized health care professional, obtain services in Saskatchewan (unless pre-authorized by Saskatchewan Health) and are unable to obtain device funding from any other government agency. Benefits available through SAIL include LV eyewear, loaned LV devices and assistance with purchasing LV devices. Individuals with a BCVA of 20/150 or worse in the better eye or visual fields no greater than 20 degrees qualify for assistance. LV eyewear, which includes lens mounted telescopes, eyeglasses, contact lenses and therapeutic tints is fully subsidized by SAIL.

Unlike Alberta's STEP, high-tech devices (i.e., CCTV) are not covered. Specified LV aids and devices are also available on loan at no cost to the client. These items are purchased, housed, maintained and distributed by VLR Saskatchewan (VLRSK) on behalf of SAIL. Items available on loan include book playback machines (CD format), brailers, magnifiers (including half eye reader spectacles) and white canes. SAIL also subsidizes purchases of additional LV aids and devices though the CNIB with the client being responsible for a portion of the cost and is limited to every 2-5 years depending on the device.

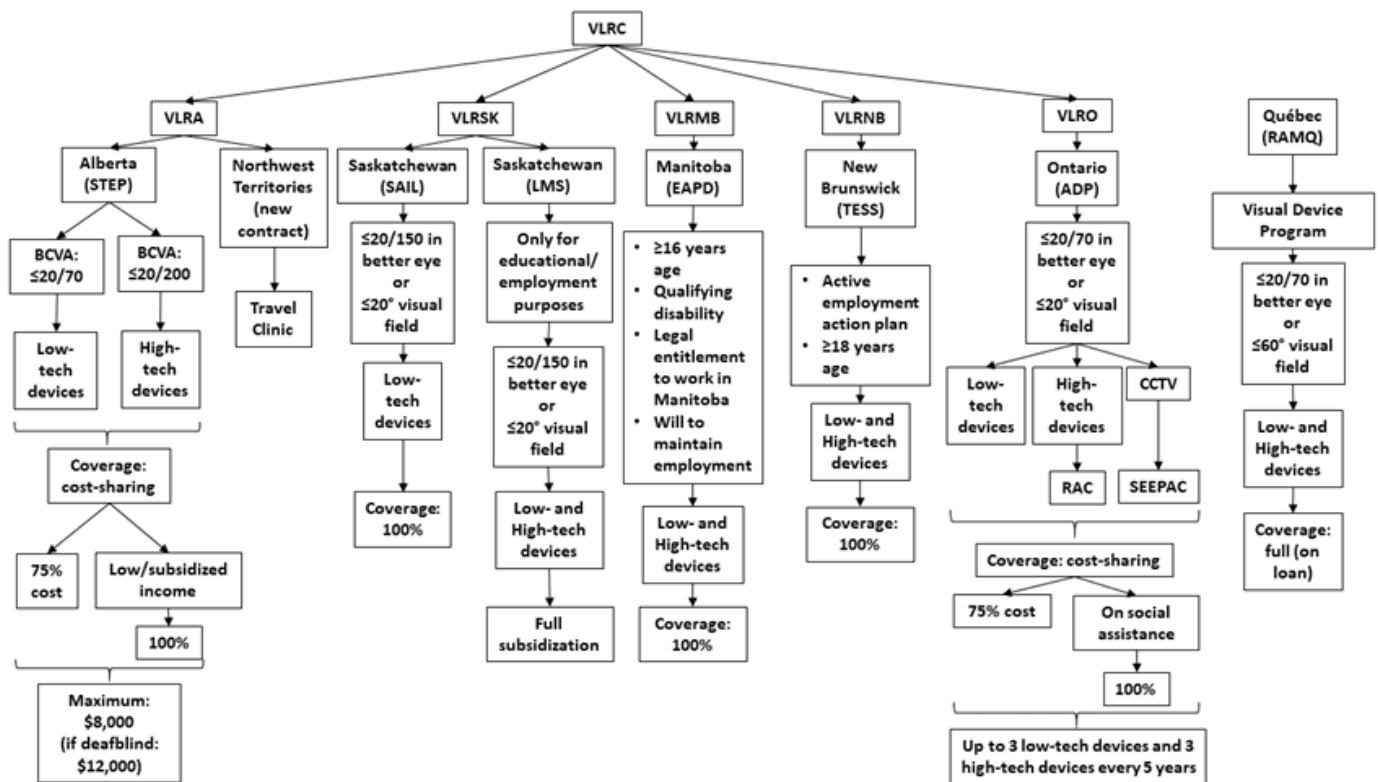
In addition to the SAIL program, The Labour Market Services (LMS), a branch of Saskatchewan's Ministry of Immigration and Career Training, fully subsidizes LV devices (including high-tech devices) required exclusively for educational or employment purposes. The LMS program has spent a total of \$55,654.48 CAD on equipment between July 2019 and June 2020. Currently there are 71 clients that are receiving LMS services in the 2019/2020 year. Further details regarding the SAIL program can be found online [8], and the LMS program [9]. For a summary of Saskatchewan's provincial coverage please see Table 1 and Figure 1.

Table 1. Comparison of LV device coverage between each province and territory in Canada.

Province/Territory	Provincial/Territorial Device Coverage Available	Coverage Program Name	Administering Organization	Coverage Amount	LV Devices Covered
British Columbia	No				
Yukon	No				
Alberta	Yes	Specialized Technical Equipment Program (STEP)	VLRA/CNIB	75-100%	Low-Tech High-Tech
Saskatchewan	Yes	Aids to Independent Living Program (SAIL)	VLRSK/CNIB	Up to 100%	Low-Tech
		Labour Market Services (LMS)	VLRSK	100% (for post-secondary and employment needs only)	Low-Tech High-Tech
Northwest Territories	Yes	Contract with VLRA	VLRA/CNIB	100%	Low-Tech High-Tech
Manitoba	Yes (for post-secondary and employment needs only)	Employability Assistance for People with Disabilities (EAPD)	VLRMB/CNIB	Up to 100%	Low-Tech High-Tech
Nunavut	No				
Ontario	Yes	Assistive Devices Program (ADP)	ADP	75-100%	Low-Tech High-Tech
Québec	Yes	Visual Devices Program	Régie de l'assurance maladie du Québec (RAMQ)	100% (on loan)	Low-Tech High-Tech
New Brunswick	Yes (for post-secondary and employment needs only)	Training and Employment Support Services (TESS)	VLRNB/CNIB	100%	Low-Tech High-Tech
Prince Edward Island	No				
Nova Scotia	No				
Newfoundland and Labrador	No				

Abbreviations: CNIB: Canadian National Institute for the Blind; VLR: Vision Loss Rehabilitation; LV: Low Vision; AB: Alberta; SK: Saskatchewan; MB: Manitoba; O: Ontario; NB: New Brunswick

Figure 1. Flowchart representation LV device coverage by administering organization for each province and territory in Canada. VLR: Vision Loss Rehabilitation; LV: Low Vision; AB: Alberta; SK: Saskatchewan; MB: Manitoba; O: Ontario; NB: New Brunswick; STEP: Specialized Technical Equipment Program; SAIL: Aids to Independent Living Program; LMS: Labour Market Services; EAPD: Employability Assistance for People with Disabilities; ADP: Assistive Devices Program; TESS: Training and Employment Support Services; RAMQ: Régie de l'assurance maladie du Québec.



Manitoba: LV devices used specifically for post-secondary education or employment purposes are subsidized or loaned through Manitoba's Employability Assistance for People with Disabilities (EAPD) program. EAPD is administered by VLR Manitoba (VLRMB) and received \$61,000 CAD in provincial funding for LV devices during the 2019-2020 year. In 2019 there were 69 LV devices dispensed to 22 individuals through the program. To be eligible for EAPD funding an individual must be a resident of Manitoba aged 16 years or older, provide proof of a qualifying disability as diagnosed by an appropriate professional, be legally entitled to work in Manitoba on a permanent basis and show a willingness to prepare for, obtain and maintain employment. Additionally, individuals must clearly demonstrate that they know how to use the equipment and have ongoing vocational or employment related need for the equipment in order to obtain funding for devices on loan through EAPD. There is no maximum year benefit per client and there is no limitation on the type of device that can be obtained through the program. Further details regarding EAPD program can be found online [10]. Summary of Manitoba's provincial coverage is shown in Table 1 and Figure 1.

New Brunswick: Similar to the EAPD program in Manitoba and the LMS program in Saskatchewan, New Brunswick's Training and Employment Support Services (TESS) program provides subsidies for LV devices needed specifically for post-secondary education or employment purposes. The TESS program is funded through the department of Post-Secondary Education Training and Labour (PETL) and is administered by VLR New Brunswick (VLRNB). To be eligible for device coverage through the TESS program an individual must be a resident of New Brunswick, have an active employment action plan, be a high school graduate, or a high school student during part time or summer employment, or be at least 18 years of age, or be enrolled into an adult learning program and have a documented permanent physical, intellectual, psychiatric, cognitive, or sensory disability. After an evaluation by a VLRNB specialist, all recommended LV devices are fully covered by provincial funding. Further details the TESS program can be found online [11]. Summary of New Brunswick's provincial coverage is shown in Table 1 and Figure 1.

Ontario: Coverage for LV devices in Ontario is provided through the Ministry of Health's Assistive Devices Program (ADP). Like STEP in Alberta, ADP is a cost-sharing program that covers 75% of the eligible equipment cost and the patient pays the remaining 25%. Those on social assistance qualify for a cost-share exemption and receive 100% device coverage. To qualify for ADP requires the individual be a resident of Ontario with a valid Ontario health card. Individuals with a BCVA of 20/70 or worse in the better eye or visual fields no greater than 20 degrees qualify for assistance. The ADP helps cover low-tech, some high-tech, and mobility devices (e.g. white canes). Devices such as braille watches, GPS systems, and talking clocks or calculators are not covered under the ADP. In Ontario, low-tech LV devices can only be prescribed and authorized by ADP approved providers which may include ophthalmologists, optometrists and VLR Ontario (VLRO) Specialists. Similarly, vending of most ADP devices can only be done by licenced ADP vendors, which can include

ophthalmologists, optometrists, opticians, VLRO specialists and commercial retailers. High-tech devices (such as CCTV's and computers) are only authorized and dispensed in 9 different Regional Assessment Centres (RACs) province wide, most of which are overseen by VLRO. In addition to the RACs, CCTVs are also distributed from the Sight Enhancement Equipment Pool and Assessment Centre (SEEPAC) housed at the School of Optometry and Vision Sciences at the University of Waterloo. Through ADP, individuals are allowed 3 low-tech devices and 3 high-tech devices every 5 years. Further details regarding ADP can be found online [12]. Summary of Ontario's provincial coverage is shown in Table 1 and Figure 1.

Québec: LV devices can be obtained through the Régie de l'assurance maladie du Québec (RAMQ)'s Visual Devices Program (Le programme d'aides visuelles). The program does not subsidize the cost for purchase, rather it provides devices on loan and even covers replacement or repair (unless lost, stolen or damaged) of LV devices. As such, the LV devices must be returned if the individual no longer uses the device, or if they leave Québec. To qualify, an individual must be insured by Québec's Health Insurance Plan and have a BCVA in each eye less than 20/70 or a visual field less than 60 degrees in the horizontal and vertical meridians [13]. Borrowing an LV device requires an application to one of 16 approved government sponsored rehabilitation centres spread throughout the province. The patient must then be assessed at a centre to see which devices they are eligible to receive. Devices provided on loan include reading aids (such as CCTV, optical systems and calculators), writing aids (such as brailers) and mobility aids (such as white canes, electronic obstacle detectors and night vision goggles). In addition, students and workers may be eligible to borrow additional equipment such as computer-compatible CCTVs, computers, braille display and printer and satellite geopositioning systems. Further details regarding the Visual Devices Program can be found online [14]. Summary of Quebec's provincial coverage is shown in Table 1 and Figure 1.

British Columbia, Yukon, Nunavut, Prince Edward Island, Nova Scotia Newfoundland and Labrador: At present there is no Provincial or Territorial coverage for adults to obtain LV devices in these jurisdictions.

Discussion

Following a comprehensive literature review, Gold and Zuvella [15] identified several barriers to accessing LVR services for seniors in Canada, including a rising demand for LVR within a context of limited provincial funding and resources, and gaps in provincial health plan coverage for LVR. Chiang et al. [16], similarly identified availability of government subsidization and funding as major barrier globally. As many Canadians over 65 live on a fixed income, the cost of LV devices is an added burden for them [14].

A summary of the different provincial and territorial LV device coverages highlights the need for ongoing work in order to ensure more equitable and comprehensive LV device coverage across Canada.

At present, there is a wide range of subsidization, from full coverage to no provincial coverage whatsoever. While Manitoba and New Brunswick have some coverage, it is limited to post-secondary education and work-related needs. Consequently, those with LV in Canada cannot always rely on public support to meet their needs when it comes to subsidizing LV devices.

Even in provinces and territories with coverage, many programs require an assessment for LV devices at specific centres in order to receive subsidization. This too can be problematic as location and transportation has been shown to be a barrier to accessing LVR, especially in a country like Canada where the population is spread over a large geographical area (Figure 2) [17].

Interestingly, even when barriers such as travel to assessment centres and the cost of LV devices are eliminated, many still do not avail themselves of LVS even with the appropriate referrals. In the Montreal Barriers Study [18], Overbury and Wittich demonstrated that even under “ideal conditions” (i.e. close proximity to several assessment centres in the city of Montreal, and full provincial subsidization in Quebec for LVR/LV devices), only slightly more than half of the participants referred for LVR were aware of, and had utilized the services.

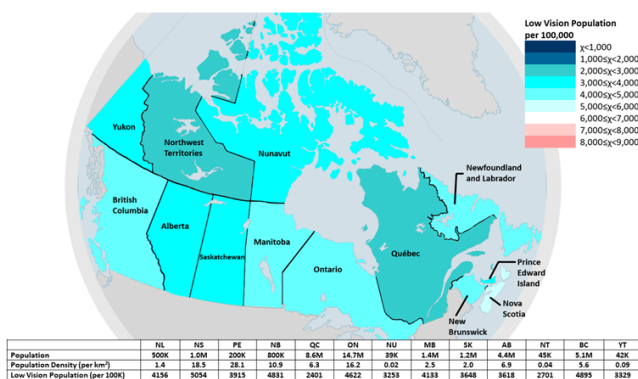


Figure 2. Total population, population density and low vision density in each province and territory of Canada. Map is colored by low vision population density. Map image [colors added]: Low vision population data obtained from Cruess AF, Gordon KD, Bellan L, Mitchell S, Pezzullo ML. The cost of vision loss in Canada. **Abbreviations:** NL: Newfoundland & Labrador; NS: Nova Scotia; PE: Prince Edward Island; NB: New Brunswick; QC: Quebec; ON: Ontario; NU: Nunavut; MB: Manitoba; SK: Saskatchewan; AB: Alberta; NT: Northwest Territories; BC: British Columbia; YT: Yukon.

Conclusion

While other barriers, such as psychosocial or psychological factors, may also play a role in underutilization of LVS, eliminating the barrier of cost for LV devices will most certainly serve to increase accessibility and usage of LVS within Canada.

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References

- Hazel C, Latham K, Armstrong R, et al. Visual function and subjective quality of life compared in subjects with acquired macular disease. *Investigative ophthalmology & visual science.* 2000;41:1309-15.
- Scanlan J, Cuddeford J. Low vision rehabilitation: a comparison of traditional and extended teaching programs. *J Vis Impair Blind.* 2004;98:601-11.
- Gold D, Zuvela B, Hodge WG. Perspectives on low vision service in Canada: A pilot study. *Canadian journal of ophthalmology.* 2006;41:348-54.
- Gold D, Simson H. Identifying the needs of people in Canada who are blind or visually impaired: Preliminary results of a nation-wide study. *International Congress Series.* 2005;1282:139-42.
- Cruess AF, Gordon KD, Bellan L, et al. The cost of vision loss in Canada. 2. Results. *Canadian journal of ophthalmology.* 2011;46:315-8.
- Government of Canada. *Canada Health Act, 2020.*
- Alberta. *Vision loss rehabilitation. VLR specialized technical equipment program 2018.*
- Saskatchewan Aids to Independent Living.
- Labour Market Services, Saskatchewan.
- Employability Assistance for People with Disabilities Operating Manual, Manitoba.
- Training and Employment Support Services (TESS) - Employment Services. New Brunswick, Canada.
- Assistive Devices Program, Ontario. 2021.
- Robillard N, Overbury O. Quebec model for low vision rehabilitation. *Canadian Journal of Ophthalmology.* 2006;41:362-6.
- Visual aids, RAMQ
- Gold D, Zuvela B. The impact of health policy gaps on low vision services in Canada. *International Congress Series.* 2005;1282:134-8.
- Chiang PP-C, O'Connor PM, Le Mesurier RT, Keeffe JE. A global survey of low vision service provision. *Ophthalmic epidemiology.* 2011;18:109-21.
- Lam N, Leat SJ. Reprint of: Barriers to accessing low-vision care: the patient’s perspective. *Canadian journal of ophthalmology.* 2015;50:S34-S9.
- Overbury O, Wittich W. Barriers to Low Vision Rehabilitation: The Montreal Barriers Study. *Investigative ophthalmology & visual science.* 2011;52:8933-8.

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